

REMARKS

Claims 1-27 and 42-66 are pending. Claims 28-41 have been canceled without prejudice to Applicants rights to pursue said claims in a divisional patent application. Claims 1, 12, 42, and 53 have been amended to correct typographical errors. No new matter has been added. Claims 1 and 42 comprising the independent claims.

In the Official Action, dated February 27, 2004, claims 1-17, 20, 21, 24-27, 42-58, 61-62, and 65-66 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,587,125 (Paroz), and Claims 18-19, 22-23, 59-60, and 63-64 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Paroz.

Summary of the Invention

This invention relates generally to a method and system for providing a universal remote control of any type of computing device via a common abstracted language. In particular, this invention relates to a method and system for providing a remote control experience tailored to a user, based upon a common abstracted user interface language capable of being understood by a variety of computing devices, including household appliances, and everything having a user interface for control (Application, page 1, lines 5-10).

As shown in Fig. 3, a user interacts with a *universal console (UC)* in order to specify a *set of preferences* to be communicated to the UC along communications channel, which may include *specifying a disability such as blindness, color blindness, etc.* Once a user has located an application or device to control with the UC, the UC receives a canonical UI description along a communications channel. The canonical UI description may come from alternate sources as well. Notifications and other output(s) from the device may also be communicated via the channel. *The UC renders a concrete UI to the user of the UC*, so that the user may communicate action-commands with associated parameters to the application or device being controlled along communications channel (Application, page 15, lines 1-10).

A specification by the user regarding the user's preferences may be applied to each of the descriptions so that the user is always presented with a preferable user interface. *For example, a*

blind person may specify that he or she is blind, and a Braille user interface may be applied for each device being operated. Text may accompany any of the abstract building blocks as well, which may be rendered visually, by voice, by feel, etc. Different languages may also be accommodated for the same reason. Defining in a syntax only the abstract functionality necessary or common between all user interfaces enables the presentation of the ultimate user interface to be tailored to the user (Application, page 4, line 27 to page 5, lines 1-8).

In a typical scenario, before a vendor brings a device to market, the vendor designs a canonical UI representation of the device's UI in accordance with the specification of the canonical UI syntax. The vendor may do this directly, or the vendor could automate the transformation of an HTML-based UI into a canonical UI via abstraction. In one embodiment, the result is an XML stream that describes the action-commands the device accepts and an abstract UI that enables the user to choose what he or she wants the device to do, determining which action-commands the UC should invoke. Also, for each action-command that has parameters, the canonical UI includes a description, such as an XML description, for gathering the values of those parameters.

Paroz

Paroz discloses a method for remotely controlling a first computing device from at least one of a plurality of second computing devices. The first computing device has a user interface and a data communications connection to the second computing device and the second computing device is adapted to present a user interface. The method comprises analyzing the static and dynamic logic of the first computing device's user interface and creating a logically equivalent user interface in a platform-independent format for the second computing device. The equivalent user interface enables control of the first coupling device from the second computing device (Abstract).

As can be seen from Fig. 1, 2, and 7, the second user interface running on the second computing device ("remote interface") communicates with the first computing device ("local program") via two software intermediaries, which are the primary components of the present invention: they are (1) the local server software program, (2) and a mediator software program.

The local server comprises three active software components: a window analyzer, a command executor, and a visual status monitor. The local server stores data in a configuration database (col. 7, lines 5-31). The window analyzer takes a GUI object identifier (e.g., HWND in the Windows environment) as input and analyzes the construction of the GUI object and its child GUI objects. The analysis is logical, i.e., the window analyzer identifies the UI object type (button, list, etc.) and creates a database record consisting of three parts: the object's static attributes (e.g., size, visibility state, etc.), the object's interface to the local program, and the object's interface to the second computing device (col. 9, lines 12-20).

The other major component of Paroz, the mediator, serves as a mediator between the local server and the second computing device. The mediator receives input from both entities and sends output to both entities. In addition, it is the mediator that makes it possible to carry out collaborative sessions where multiple second computing devices share a single local program (col. 7, lines 5-31). The mediator sends the second computing device a set of DHTML or WML pages, which run on the second computing device's Web browser. These pages form the second user interface by which a user can control the first device. The DHTML page can be customized for properties such as window size, font, language, color, refresh rate, target device, and communication protocol (e.g. HTTP and WAP) (col. 8, lines 19-60).

Rejection under 35 U.S.C. § 102(e) and § 103(a)

Claims 1-17, 20, 21, 24-27, 42-58, 61-62, and 65-66 were rejected § 102(e) as allegedly anticipated by Paroz. Dependent claims 18-19, 22-23, 59-60, and 63-64 were rejected under § 103(a) as allegedly obvious over Paroz. The outstanding rejections to the claims under 35 U.S.C. §§ 102(e) and 103(a) are respectfully traversed.

Independent claim 1, similar to independent claim 42, teaches “[a] method for controlling at least one computing element with a universal console (UC), comprising: ... instantiating a concrete UI by the UC taking into account the stored user preferences” (emphasis added). This teaching is explained in the Application as follows:

The UC 200 could ultimately present a high contrast GUI, speech, or *Braille*. The UC 200 could *adapt to cognitive and learning disabilities*, and so on. Thus, in accordance with the present invention, the *UC 200 is afforded the maximum flexibility to fashion the concrete UI* that the user of the UC 200 finally sees, by having the device expose the minimum requirements that a UI for that device must meet. This allows vendors to create UCs 200 to cater to a breadth of common and rare disabilities and combinations of disabilities that are not adequately addressed today.

(Application, page 9, lines 9-15) (emphasis added). Instantiating such concrete UI using the UC to take into account user preferences solves the following problem:

[U]niversal remote control devices currently do not allow a user to *tailor the universal remote to himself or herself*. Instead, if the user is *blind*, for example, there is no way to present the data to the user in *Braille*. While for a given device, such as a TV, Braille devices exist for the purpose of allowing a blind user to interact effectively with the device, this gets back to the original problem of *not having a common Braille device for interacting with a plurality of different devices*.

(Application, page 2, lines 11-16) (emphasis added). Thus, by providing such a common device for a disability such as blindness, the user is able to interact with a plurality of different devices.

Paroz does not disclose instantiating a concrete UI using the UC to take into account stored user preferences. First, Paroz does disclose a DHTML page that can be customized for properties such as window size, font, language, color, refresh rate, target device, and communication protocol (col 8, lines 57-59). *See Also* col. 11, lines 64-67. However, this customization falls short of the present invention's teachings. Merely customizing such properties as window size, font, color, etc. does not go far enough in addressing the disabilities of potential users, who can, with the present invention, control a plurality of devices. A blind person could not use Paroz's invention to control a multitude of computing devices such a TV, a VCR, and a microwave. The reason is that Paroz does not teach instantiating by a UC a concrete UI by taking into account stored user preferences.

Second, as mentioned above, Paroz employs intermediaries between the first and second computing devices. *See* Figs. 1, 2, and 7. "[T]wo software intermediaries ... are the primary

components of the ... [Poraz] invention” (col. 7, lines 7-9) (emphasis added). It is because of these intermediaries that Poraz is able to create “a logically equivalent user interface ... for the second computing device” (Abstract). Conversely, the present invention does not depend on such intermediaries, instead canonical UIs are sent from a computing device to a UC. See Figs. 2 and 3. These canonical UIs are instantiated into “concrete UI[s]” by the UC taking into account the stored user preferences” (claim 1) (emphasis added).

Thus, Paroz does not teach “controlling at least one computing device with a universal console (UC) ... [by] instantiating a concrete UI by the UC taking into account the stored user preferences” (claim 1) (emphasis added) or “a computer system wherein a user controls at least one computing element ... wherein said UC generates a concrete UI description from said canonical UI and said stored user preferences...” (claim 42) (emphasis added).

As mentioned, independent claim 1 is similar to independent claim 42. Claims 2-17, 20, 21, 24-27, 43-58, 61-62, and 65-66, which were rejected under § 102(e), depend either directly or indirectly from claims 1 and 42, respectively, and are believed allowable for the same reasons. Similarly, dependent claims 18-19, 22-23, 59-60, and 63-64, which were rejected under § 103(a), incorporate limitations recited in claims 1 and 42, respectively, and thus also are believed allowable for the same reasons. Accordingly, Applicants submit that claims 1-27 and 42-66 patentably define Paroz. Withdrawal of the rejection of claims 1-17, 20, 21, 24-27, 42-58, 61-62, and 65-66 under § 102(e), and claims 18-19, 22-23, 59-60, and 63-64 under § 103(a) is thus earnestly solicited.

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PATENT

CONCLUSION

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Office Action, and submit that Claims 1-27 and 42-66 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

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